

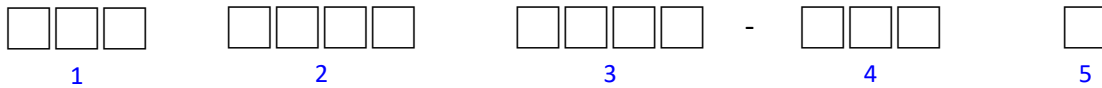
⊕ Feature

- High impedance at high frequency effects excellent noise suppression performance.
- The choke coils structure enables noise suppression without degrading the signal.

⊕ Applications

The SCMS Series is SMD common mode filter specifically designed to eliminate common mode noise in USB 2.0, IEEE1394, and LVDS applications.

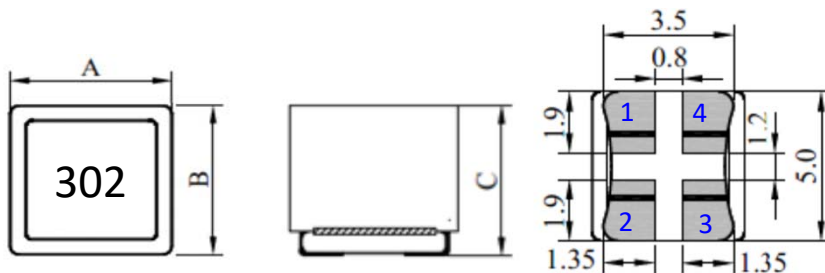
⊕ Product Identification :



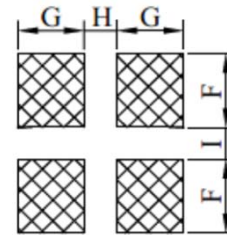
| Series name | Dimensions(WxLxH) | | Internal code |
|-------------|-------------------|---------------|---------------------|
| SCMS | 5020 | 4.8*5.0*2.5mm | P2 = 2 set of wires |
| | 5040 | 4.8*5.0*4.5mm | : |
| | | | SD = Standard |

| Impedance | | Tolerance | |
|-----------|--------|-----------|-----|
| 101 | 100 Ω | | 10% |
| 301 | 300 Ω | M | 20% |
| 701 | 700 Ω | Y | 25% |
| 102 | 1000 Ω | N | 30% |

⊕ Shapes And Dimensions

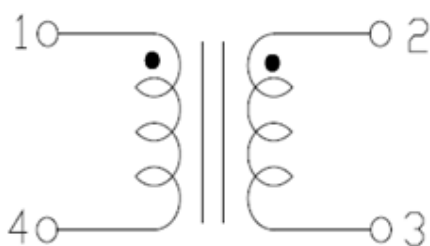


⊕ Shapes And Dimensions



| Part No. | Dimensions(mm) | | | | | | | |
|----------|----------------|---------|---------|---------|---------|---------|---------|--|
| | A | B | C | F | G | H | I | |
| SCMS5020 | 4.8±0.2 | 5.0±0.2 | 2.5 Max | 2.3 Ref | 1.6 Ref | 0.8 Ref | 1.0 Ref | |
| SCMS5040 | 4.8±0.2 | 5.0±0.2 | 4.5 Max | 2.3 Ref | 1.6 Ref | 0.8 Ref | 1.0 Ref | |

⊕ Equivalent Circuit Schematic :



⊕ Material List :

| No. | Location | Material |
|-----|----------|--------------|
| 1 | Core | LFM |
| 2 | Wire | 2UEW,P180 |
| 3 | Solder | Sn99.3 Cu0.7 |

1.Operating temperature -40°C ~ +125°C

2.Storage conditions -40°C ~ +125°C

⊕ Electrical Characteristics :

| Part No. | Impedance @100MHz/0.5V (Ω) | DCR (Ω) | Rated Current (A) | Rated Volt. (V) | I.R DC50V/0.5S (MΩ) |
|---------------|----------------------------------|---------------|----------------------|--------------------|---------------------------|
| SCMS5020S-101 | 100 Typ | 0.009 ±40% | 6.0 Max | 50 Typ | 10 Min |
| SCMS5020S-251 | 250 Typ | 0.014 ±40% | 5.0 Max | 50 Typ | 10 Min |
| SCMS5020S-351 | 350 Typ | 0.028 ±40% | 4.0 Max | 50 Typ | 10 Min |
| SCMS5020S-501 | 500 Typ | 0.019 ±40% | 4.0 Max | 50 Typ | 10 Min |
| SCMS5020S-102 | 1000 Typ | 0.024 ±40% | 2.0 Max | 50 Typ | 10 Min |
| SCMS5020S-142 | 1400 Typ | 0.04 ±40% | 1.5 Max | 50 Typ | 10 Min |
| SCMS5020S-152 | 1500 Typ | 0.04 ±40% | 1.5 Max | 50 Typ | 10 Min |

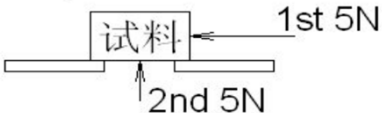
⊕ Electrical Characteristics :

| Part No. | Impedance @100MHz/0.5V (Ω) | DCR (Ω) | Rated Current (A) | Rated Volt. (V) | I.R DC50V/0.5S (MΩ) |
|---------------|----------------------------------|-------------|----------------------|--------------------|---------------------------|
| SCMS5040S-191 | 190 Typ | 0.02 Max | 5.0 Max | 50 Typ | 10 Min |
| SCMS5040S-351 | 350 Typ | 0.04 Max | 2.0 Max | 50 Typ | 10 Min |
| SCMS5040S-102 | 1000 Typ | 0.06 Max | 1.5 Max | 50 Typ | 10 Min |
| SCMS5040S-152 | 1500 Typ | 0.1 Max | 1.0 Max | 50 Typ | 10 Min |
| SCMS5040S-302 | 3000 Typ | 0.2 Max | 0.5 Max | 50 Typ | 10 Min |
| SCMS5040S-402 | 4000 Typ | 0.3 Max | 0.2 Max | 50 Typ | 10 Min |

※IDC:The actual value of D.C. current when the temperature rise is $\Delta t=40^{\circ}\text{C}$ ($T_a=20^{\circ}\text{C}$).

※Test Instrument: Impedance(Agilent 4291A) 、 DCR(Chroma 16502) 、 I.R(Chroma 19073).

⊕ General Characteristics

| 項目 Item | Conditions | Specification |
|---------------------------------|---|--|
| 温度特性 Temperature drift | 在温度-40 ~ + 125°C之间测试。 To be measured in the range of -40°C to 125°C. | Inductance temperature coefficient 2000 ppm/°C or less |
| 保存温度范围 Storage Temperature | 在包装的状态下。 With taping. | - 40°C ~ + 125°C |
| 使用温度范围 Operating Temperature | 包括制品的发热温度。 Including self temperature rise. | - 40°C ~ + 125°C |
| 固着强度 Adhesion strength | <p>按箭头方向用R0.5 的加压棒在试件中施加一定的静力并保持10±5秒。</p> <p>A static load using a R0.5 pressing tool shall be applied the arrow and to the body of the specimen in the direction of the arrow and shall be hold for 10±5s. Measure after removing pressure.</p> <div style="text-align: center;"> <p>Specimen</p>  </div> | No Terminal detachment |
| 耐冲击性 Mechanical shock | <p>利用橡胶块式落下冲击试验机，分别在3 个互相垂直的方向以981m/S² 的冲击加速度落下。</p> <p>Peak acceleration: 981 m/S² Duration of pulse: 6ms 3 times in each of 3(X,Y,Z)axes. The specimen must be fixed on test board. Three successive shock shall be applied in the perpendicular direction of each surface of the specimen.</p> | Change from an initial value L : within±10% |

| | | |
|---|--|---|
| <p>耐振性 Vibration</p> | <p>振动频率10 ~ 55 ~ 10Hz, 振幅1.5mm, 分X,Y,Z方向各振动1 小时 (共3 小时) 。</p> <p>The specimen shall be subjected to a vibration of 1.5mm amplitude, sweep frequency 10~55Hz (10Hz to 55Hz to 10Hz in a period of one minute) for 1 h in each of 3(X,Y,Z) axes.</p> | <p>Change from an initial value L : within±10%</p> |
| <p>焊锡附着性 Solder ability</p> | <p>试验品的电极深布松香后，在5 ~ 10 秒内焊锡，焊锡槽温度245±5℃，时间：3±0.5 秒。</p> <p>Terminals shall be immersed for 5 to 10 seconds in flux at room temperature. Dip sample into solder bath containing molten solder at 245±5℃ for 3±0.5 seconds.</p> | <p>90%以上的面积要被覆盖。</p> <p>New solder shall cover 90% minimum of the surface immersed.</p> |
| <p>焊锡耐热性 Resistance to soldering heat</p> | <p>试验方法Test method 热风炉焊接Reflow soldering method 预热Preheat 150~180℃ 90±30s 峰值温度Peak temp 250(+ 5,-0)℃ (230℃min , 30±10s) 试验板的厚度0.8mm 上按上面条件通过两次热风炉。</p> <p>The specimen shall be subjected to the reflow process under the above condition 2 times. Test board shall be 0.8mm thick. Base material shall be glass epoxy resin.</p> <p>测定Measurement 常温常湿中放置于1 小时以上测试。</p> <p>The specimen shall be stored at standard atmospheric conditions for 1 h in prior to the measurement.</p> | <p>Change from an initial value L : within±10%</p> |
| <p>耐湿性 Dump heat</p> | <p>在温度40±2℃，湿度90~95%中放置500±12 小时后，常温常湿中放置1 小时以上2 小时以内测试。</p> <p>The specimen shall be stored at a temperature of 40±2℃ with relative humidity of 90 ~ 95% for 500 ± 2h. Then it shall be stabilized under standard atmospheric conditions for 1 h before measurement. Measurement shall be made within 1h.</p> | <p>Change from an initial value L : within±10%</p> |



| | | |
|-------------------------------|--|----------------------------|
| 绝缘抵抗 Insulation resistance | 在电极与磁材之间加入直流电压100V。 100V DC shall be applied between the terminal and the core. | 100mΩ 以上 100mΩ or more. |
|-------------------------------|--|----------------------------|

标准状态Standard atmospheric conditions

Unless otherwise specified, the standard range of atmospheric conditions in making measurements and test as follows;

Ambient temperature : 5°C to 35°C, Relative humidity: 45% to 85%, Air pressure: 86kPa to 106kPa

If more strict measurement is required, measurement shall be made within following limits;

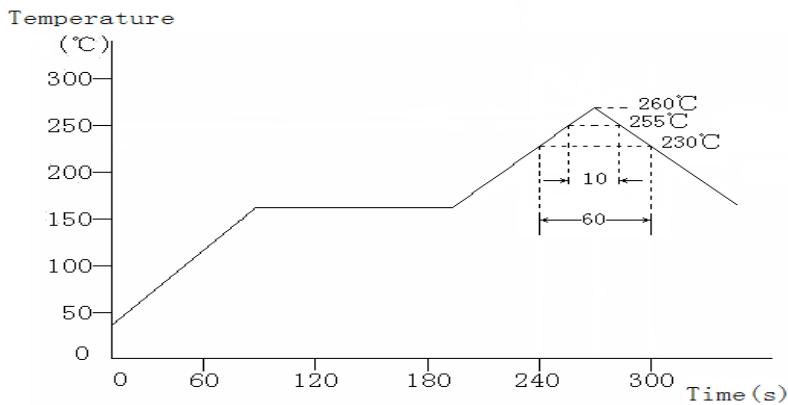
Ambient temperature : 20±2°C, Relative humidity: 65±5%, Air pressure: 86kPa to 106kPa

禁用物质Prohibited Substances

我公司保证我公司的产品和生产过程符合“RoHS 规则”，所有产品中使用的材料均是化学物质生产规则中登记的材料。

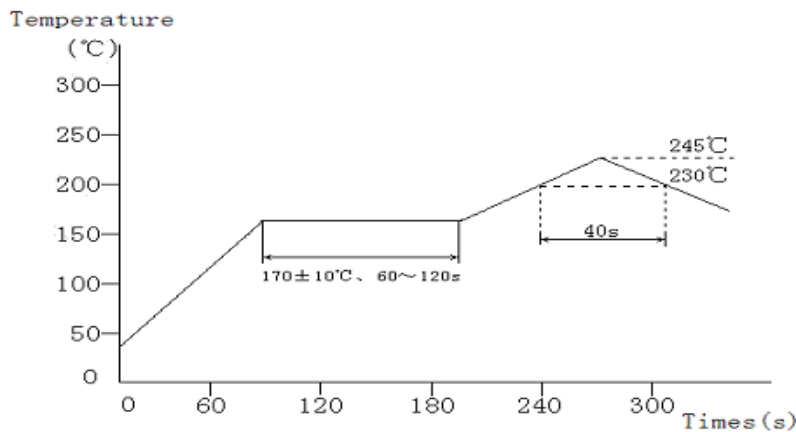
We confirm that our products and our production process accord with "rule of RoHS". All materials used in this product are registered material under the law concerning the examination and Regulation of Manufacture of Chemical Substances.

⊕ Reflow Soldering Heat Endurance



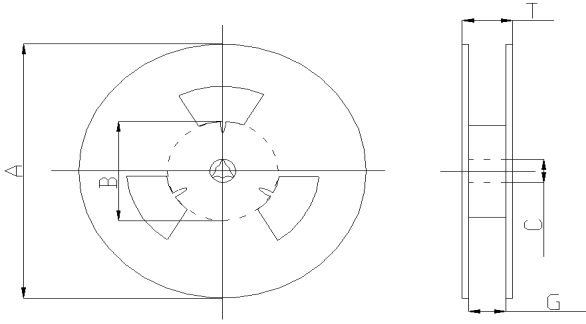
- No mechanical and electrical defects are found after testing based on the above profile and keeping under the conditions of room temperature and humidity for 2 hours.
- Twice reflow test is acceptable with the test interval remaining 1 hour under the normal conditions.
- The reflow test profile may vary with the testing instruments.

⊕ Recommended Reflow Conditions



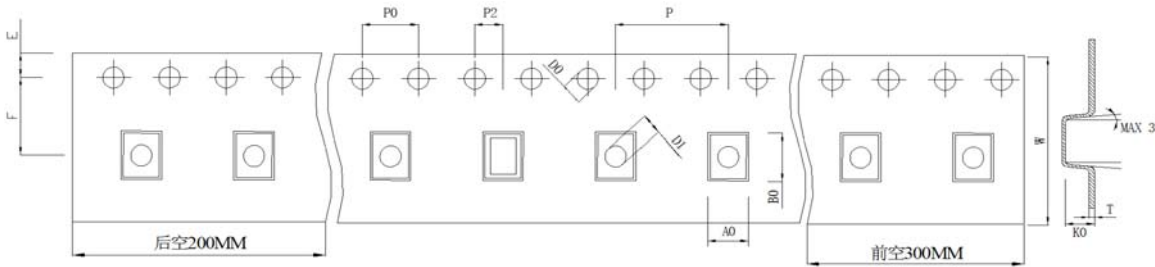
The recommended reflow profile is based on the testing instruments used. Solder ability will depend on the testing equipments, reflow conditions, testing method, etc. So it is necessary to make a confirmation of them when the reflow conditions are set up.

⊕ Reel Dimension(m/m)



| Item | A(mm) | B(mm) | C(mm) | G(mm) | T(mm) |
|--------|-------|-------|-------|-------|-------|
| 13"x16 | 330 | 100 | 13.3 | 12.5 | 17.1 |

⊕ Taping Dimension(m/m)

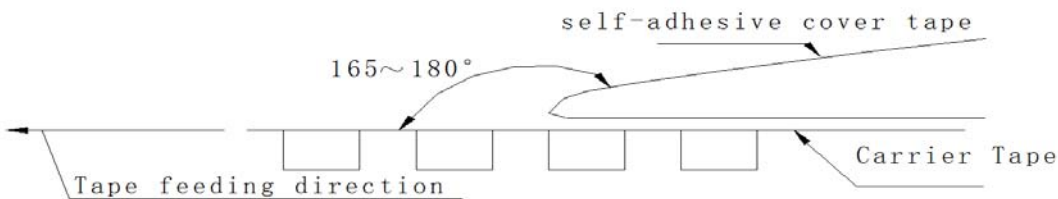


| Item | W | A0 | B0 | K0 | E | F | P | P0 |
|----------|----------|---------|---------|-----------|----------|---------|----------|---------|
| SCMS5020 | 16.0±0.3 | 5.2±0.1 | 3.0±0.1 | 5.0±0.1 | 1.75±0.1 | 7.5±0.1 | 12.0±0.1 | 4.0±0.1 |
| | P2 | D0 | D1 | T | | | | |
| | 2.0±0.1 | 1.5±0.1 | 1.5±0.3 | 0.35±0.05 | | | | |

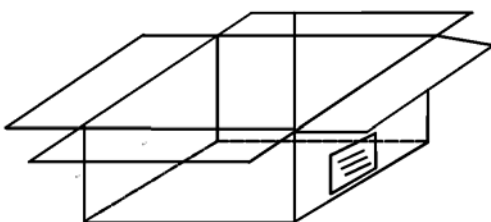
| Item | W | A0 | B0 | K0 | E | F | P | P0 |
|----------|----------|---------|---------|-----------|----------|---------|----------|---------|
| SCMS5040 | 16.0±0.3 | 5.2±0.1 | 5.0±0.1 | 5.0±0.1 | 1.75±0.1 | 7.5±0.1 | 12.0±0.1 | 4.0±0.1 |
| | P2 | D0 | D1 | T | | | | |
| | 2.0±0.1 | 1.5±0.1 | 1.5±0.3 | 0.35±0.05 | | | | |

⊕ Tape Peel off Strength

The force to tear off cover tape: 10~130g.f



⊕ Packaging Carton



| Type | Packing Unit | Carton Packing Unit |
|-----------------|---------------------|---------------------|
| SCMS5020 Series | 2,500 PCS / REEL*20 | 50,000 PCS / Box |
| SCMS5040 Series | 1,000 PCS / REEL*15 | 15,000 PCS / Box |